

Concrete

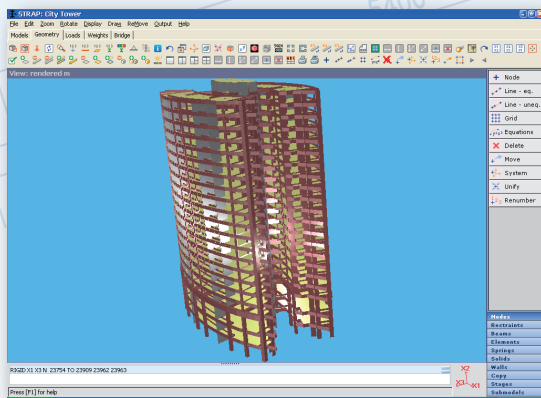
Totally integrated with the STRAP analysis package, the concrete module provides a complete solution for the design and detailing of concrete beams, columns, walls, slabs and footings.

The program enables the user to produce detailed design calculations and detailed working drawings that can be exported as DXF files.

Seismic design requirements for structural frames are included where applicable.

The program automatically identifies the continuous beams, columns and slabs from the STRAP geometry and retrieves the load combinations and envelopes from the STRAP results.

The user defines only a few preferences (e.g. concrete grade, reinforcement cover, etc.) and the program automatically designs the elements and produces detailed drawings and bar schedules.



Beams

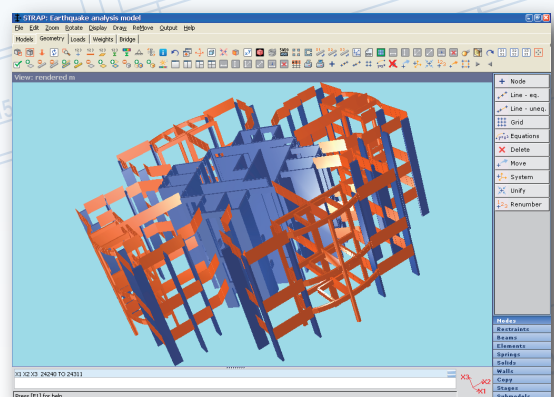
The program produces fully detailed drawing of the beams, including the longitudinal and shear reinforcement with cross sections. The program calculations include:

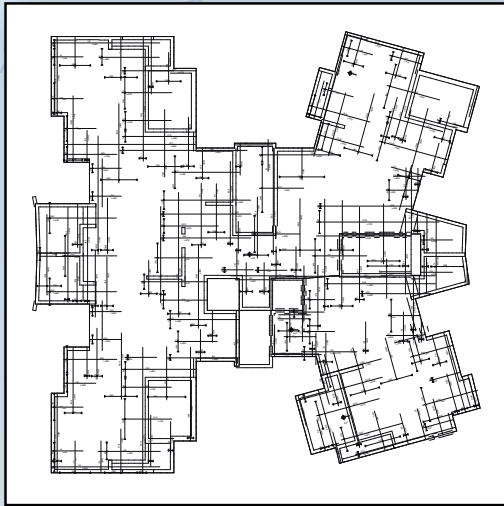
- Automatic moment redistribution (*optional*)
- Shear reduction at span supports (*optional*)
- Calculation of deflections for cracked sections.
- Calculation of reinforcement according to the seismic design codes.

Columns

The program designs columns of any shape according to the Code requirements, including additional (magnified) moments for slender columns, biaxial bending (exact) and seismic design. The reinforcement pattern for the section is displayed.

The user may edit the reinforcement produced by the program and check that the amended reinforcement layout still complies with the code requirements.





Slabs

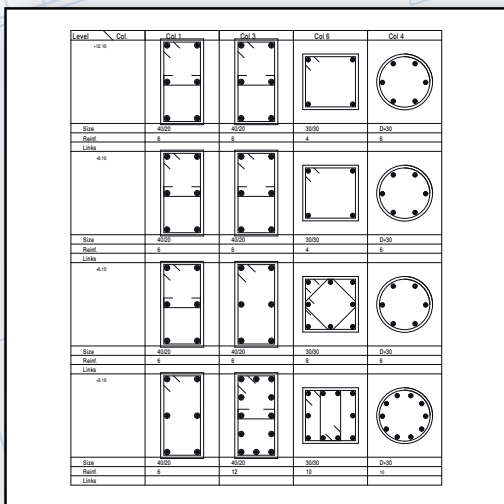
The program calculates and details the slab reinforcement, either as an arrangement of individual bars, a pattern of prefabricated meshes, or a combination of both.

The program produces a drawing that may be edited and then transferred to a DXF file. The user may edit the reinforcement produced by the program and request a check to verify that the amended reinforcement layout still complies with the code requirements.

Minimum reinforcement area, lap length, etc, are calculated according to Code requirements.

Bar schedules and mesh schedules are created automatically by the program and may be added to the drawings.

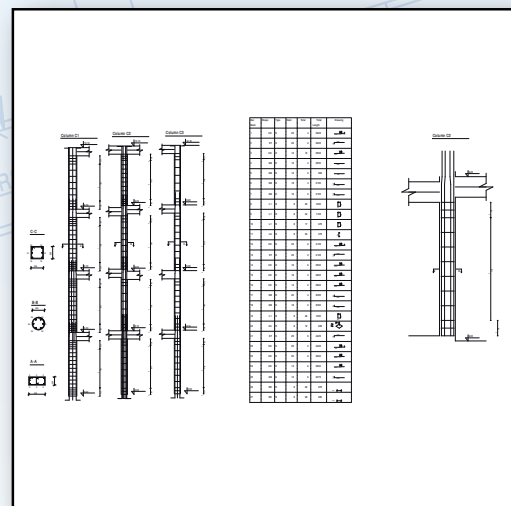
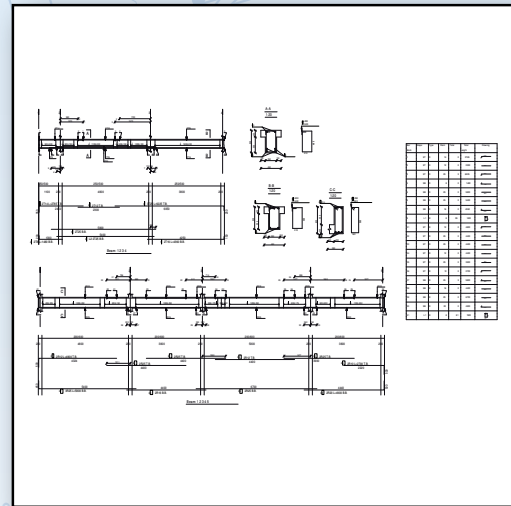
The program calculates the total reinforcement weight for each story and the total for all slabs in the model.



Walls

The program designs walls according to code requirements, including additional (magnified) moments for slender walls and seismic design.

The wall may be of any shape and may consist of any number of segments.



Spread Footings

Taking its design loading from STRAP results, this module automatically sizes and designs spread footings in accordance with code requirements. It may also be used as a standalone program.